Before The
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules to	)	ET Docket No. 96-102
Provide for Unlicensed NII/SUPERNet	)	RM-8648
Operations in the 5 GHz Frequency Range	)	RM-8653

COMMENTS OF AT&T CORP.

AT&T Corp. ("AT&T"), by its attorneys, hereby submits its comments on the Notice of Proposed Rulemaking in the above-captioned proceeding.[1/] AT&T supports the Commission's proposal to allocate spectrum in the 5 GHz band for use by high-speed, localized, low-power devices on an unlicensed basis. To the extent the Commission agrees with those parties that want to use such spectrum for longer-range, higher-power operations, however, AT&T urges the Commission to make available a portion of the proposed 350 MHz for licensed services. This approach would complement existing narrower band systems, such as cellular and PCS, and ensure parity in the licensing obligations imposed on parties offering similar wireless services.

[1/] Amendment of the Commission's Rules to Provide for Unlicensed NII/SUPERNet Operations in the 5 GHz Frequency Range, Notice of Proposed Rulemaking, ET Docket No. 96-102, RM-8648, RM-8653 (rel. May 6, 1996) ("Notice").

I. The Commission Should Allocate Spectrum For Unlicensed Low-Power, Localized NII Uses

As Wireless Information Networks Forum ("WINForum") and Apple Computer, Inc. ("Apple") (collectively "Petitioners") note, the allocation of spectrum for unlicensed NII devices and services would provide the "mobility, flexibility, increased data rates, and enhanced computer network facilities needed to advance education and business."[2/] The spectrum currently devoted to wireless services should be supplemented to spur the development of wireless interconnection within and among broadband networks.

The Commission's proposal to set aside spectrum at 5.150 - 5.350 GHz and 5.725 - 5.875 GHz for use by NII/SUPERNet devices[3/] will encourage the creation of wireless local area networks and support wireless links to the National Information Infrastructure. The ability to deploy low-power packet-based transmission systems capable of operating on a peer-to-peer (typically computer-to-computer) and user-to-hub (point-to-multipoint) basis over short distances -- no more than one-quarter mile -- would complement existing narrower band services, such as cellular and PCS, by improving local area network flexibility and providing wireless access to broadband wireline networks.[4/] These low-power uses would be able to fill the gaps not served by existing licensed services -- whether for economic or other reasons -- rather than duplicating them.

[2/] Notice at ¶ 3.

[3/] Id. at ¶ 1.

[4/] For example, as the Commission notes, existing wireless services are unable to accommodate broadband multimedia computer applications. Id. at ¶ 32.

The Commission's proposal to limit the peak EIRP for unlicensed NII/SUPERNet operations to -10 dBW (0.1 watt)[5/] would accommodate short-range communications while controlling potential interference.[6/] As discussed more fully below, these power limits also would avoid the troubling technical and policy issues raised by allowing the unlicensed use of NII/SUPERNet spectrum for longer-range, higher-powered uses. AT&T supports industry-developed protocol standards and believes that the Commission's proposed interim listen-before-talk protocol would be an additional aid in the avoidance of low-power system interference problems.[7/]

II. The Commission Should Require Licensing of Higher-Power, Longer-Range NII/SUPERNet Operations

While AT&T recognizes the potential benefits of providing spectrum for NII/SUPERNet uses, the Commission should allow high-power, long-range community network operations only on a licensed basis pursuant to spectrum auctions. If the Commission determines that previously allocated spectrum is insufficient to support such

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[5/] Id. at ¶ 47.

[6/] An additional benefit of an explicit maximum EIRP rule is that the Commission need not set additional rules for permissible antenna equipment. This will encourage flexibility and innovation from manufacturers and allow system design flexibility by operators.

[7/] The Commission may wish to consider identifying a portion of this band for the use of two-way packet streams or virtual circuits to support the rapid evolution toward isochronous multimedia applications. AT&T believes that earmarking a significant segment at each end of the 5.150 - 5.350 band would assist in accommodating these applications and that industry-developed protocol standards would be adopted to enable this type of use.

services, it should dedicate a portion of the proposed 350 MHz for these licensed operations.[8/]

Any allocation of spectrum for unlicensed long-range, high-powered NII/SUPERNet operations would be unfair to the holders of existing spectrum licenses and would undermine the congressional objective of promoting regulatory parity among wireless services.[9/] Although community wireless networks would serve valid goals, there is no justification for permitting these services on unlicensed spectrum. As the Commission acknowledges, "such point-to-point operations are similar to existing licensed fixed operations."[10/] Therefore, they should be subject to auctions and the eligibility rules and obligations imposed on other license holders. The Commission has consistently held that it should accord equivalent treatment to all categories of wireless services that have the potential to compete with one another in the marketplace.[11/] To do otherwise in this situation would provide unfair competitive advantages to unlicensed long-range, high-power NII/SUPERNet operators and

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[8/] The Commission recently approved the provision of fixed services on licensed wireless spectrum, which should provide flexibility to offer many data transmission services on currently-allocated spectrum. See FCC News Release, FCC Votes To Permit Flexible Service in the Commercial Mobile Radio Services, WT Docket No. 96-6 (June 27, 1996).

[9/] See Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI, § 6002(b), 107 Stat. 312, 392 (1993); H.R. Rep. 103-213, 103d Cong., 1st Sess. 494 (1993) (intent of Congress is that "consistent with the public interest, similar services are accorded similar regulatory treatment").

[10/] Notice at ¶ 56.

[11/] See, e.g., Implementation of Sections 3(n) and 332 of the Communications Act; Regulatory Treatment of Mobile Services, Third Report and Order, 9 FCC Rcd 7988, 7996 (1994) (concluding that "all reclassified private mobile radio services actually compete, or have the potential to compete within a reasonable time period, with existing commercial mobile radio services").

would dilute the value of previously-issued licenses and spectrum subsequently allocated and made available through the auction process.

Moreover, the type of services envisioned for these higher-powered networks -- long distance, two-way multimedia links to other networks, including the public switched network -- require the degree of reliability and quality that can only be realized through licensed services. Unlicensed services, which by definition require cooperative use of the same frequencies, are subject to greatly increased interference and protocol delay in a higher-power, longer-distance implementation scenario. Licensed services, on the other hand, are easily amenable to prior interference coordination and exclusive frequency use on a planned, individual-path basis. Licensing of higher-powered uses, therefore, would ensure that the type of community networks envisioned by the Notice are capable of being realized and would also promote the most efficient utilization of spectrum.

Likewise, the auction-based approach suggested by the Commission[12/] would encourage innovative NII/SUPERNet services while avoiding the "tragedy of the commons" that might result from the failure to provide sufficient incentives for the efficient use of available spectrum at higher power levels.[13/] Auctioning the spectrum in the 5.725 - 5.875 GHz band (divided into 25 MHz paired channels) in each MTA/BTA for point-to-multipoint

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[12/] Notice at ¶ 56.

[13/] See id. at ¶ 55. The Commission does not propose to, and should not, include this 5 GHz spectrum within its 45 MHz limitation on PCS, cellular, and SMR spectrum ownership. See 47 C.F.R. § 20.6 (45 MHz spectrum cap). Given that the basis for allocating spectrum at this time would be the unsuitability of previously-allocated spectrum for the envisioned community network operations, there is no justification for precluding broadband licensees that wish to provide such NII services from acquiring in-market 5 GHz spectrum.

(hub-to-network) and point-to-point backbone communications at power levels sufficient to transmit up to 10 kilometers would be the optimal method of licensing NII/SUPERNet spectrum.[14/]

CONCLUSION

AT&T supports the development of NII/SUPERNet services. The Commission should impose reasonable limits on the use of any spectrum allocated for these services, however, to prevent interference, maximize efficiency, and maintain fairness for existing

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[14/] AT&T believes that certain additional technical rules may be necessary to ensure that this spectrum, if made available, is used for NII access. For example, specifying minimum upstream and downstream per-channel throughput requirements could promote optimized network architecture and efficient spectrum use. Likewise, the Commission should consider setting peak EIRP limits in this band at levels high enough to ensure that appropriate length links can be implemented (a peak instantaneous power of approximately 42 dBW EIRP would appear to support 5-10 km path lengths in a practical environment). Of course, all equipment would need to comply with the applicable RF exposure standards set forth in ANSI/EEE C95.1-1992.

wireless licensees. By providing spectrum for unlicensed, low-power uses together with licenses for higher-powered services awarded by competitive bidding, the Commission can best foster flexible and innovative wireless broadband networks.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Tanya T. Butler, hereby certify that on this 15th day of July, 1996, I caused a copy of the foregoing Comments of AT&T Corp. to be sent by messenger to the following:

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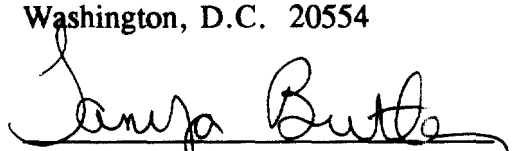

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